

The United States Miller



Published by E. HARRISON CAWKER, Vol. 22, No. 4.

MILWAUKEE, FEBRUARY, 1887.

TERMS: \$1.00 a Year in Advance
Single Copies, 10 Cents.

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Advertising, 45 to
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Manufacturing
Jeweler & Diamond Setter,
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Cor. West Water St.,
MILWAUKEE, WIS.

OUR
BUCKETS
ARE NOT
COMMON CHEAP
ONES
BUT ARE
FIRST CLASS
ELEVATOR
BUCKETS
IN EVERY
RESPECT

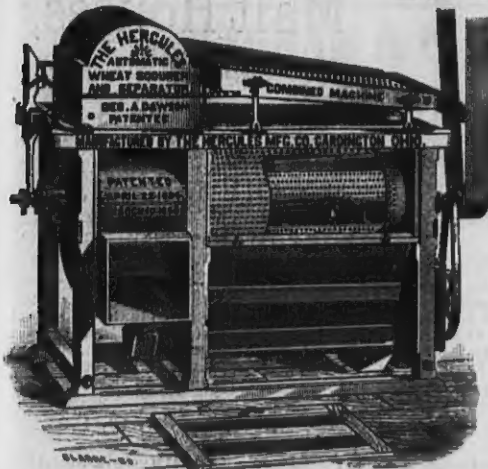
SALEM
BUCKETS
THOMAS & CO. CHICAGO
GENERAL AGTS. CHICAGO

THEY WERE
AWARDED
FIRST
PREMIUM
AT THE
MILLERS'
INTERNATIONAL
EXHIBITION
CINCINNATI, O.
1880.

W. J. CLARK & SONS, SALEM, OHIO

[Please mention this paper when you write to us.]

DO YOU WANT CLEAN WHEAT?



THE HERCULES Automatic Wheat Scourer and Separator.

Warranted to improve the **COLOR** and **VALUE** of flour in any mill. Anti-Frictional, Light Running and the only **AUTOMATIC WHEAT SCOURER** ever invented. Adjusts itself while in motion to the volume of wheat fed to it and requires no attention but oiling. Awarded **GOLD MEDAL** and highest honors at the late **WORLD'S FAIR, NEW ORLEANS**. Machines sent on 60 days trial and satisfaction guaranteed or no pay. Write for Circulars, Testimonials and Samples of Cleaned Wheat and Scourings.

THE HERCULES MFG. CO., Cardington, Ohio.

IT HAS INCREASED OUR TRADE.

THE HERCULES MANUFACTURING CO., Cardington, Ohio.

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Yours Respectfully,

SCHREURS BROS.

SCHREURS BROS.,
PROPRIETORS OF YOUNG AMERICA ROLLER MILLS,
Muscatine, Iowa, December 8th, 1885.

CAWKER'S AMERICAN FLOUR MILL DIRECTORY FOR 1886-7

ISSUED FEBRUARY, 1886. PRICE, \$10.00.

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Mill Furnisher, Flour Broker, Transportation Company, Insurance Company,
FLOUR IMPORTER, MERCHANT MILLER,

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IS THE BEST.

For full particulars address
A. J. HOPEWELL,
EDINBURG, VA.

Improved + Walsh + Double + Turbine



This wheel has a perfect fitting cylinder gate and draft tube combined, and allows no water to escape when closed.

POWER GUARANTEED

equal to any wheel on the market using equal amount of water. Address for particulars,

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This binder is suitable for binding your copies of the UNITED STATES MILLER for two or more years, any required number can be taken out without disturbing its contents. Binders made for all Publications, for binding Music, etc.

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Fast Freight & Passenger Line.

Freight Contracted on through Bills Lading to all points in

Michigan, Indiana, Ohio,
New York, Pennsylvania,
New England & Canada,
AT LOWEST RATES.

All freight insured across Lake Michigan. Passengers save \$2.75 to all points East.

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Belting and Machinery
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National Pulley Covering

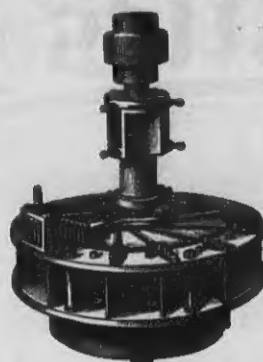
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Engines, Boilers, Hot Polished Shafting,
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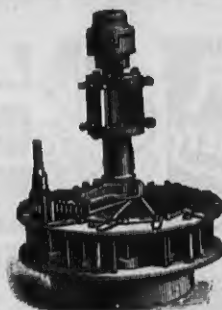
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Fine New Pamphlet for 1885.

The "OLD RELIABLE" with Improvements, making it the Most Perfect Turbine now in use, comprising the Largest and the Smallest Wheels, under both the Highest and Lowest Heads in this country. Our new Pocket Wheel Book sent free. Address,

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Made of best material and in best style of workmanship.

Machine Molded Mill Gearing

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N. B.—Special attention given to Heavy Gearing for Pulp and Paper Mills.

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FOR USE IN

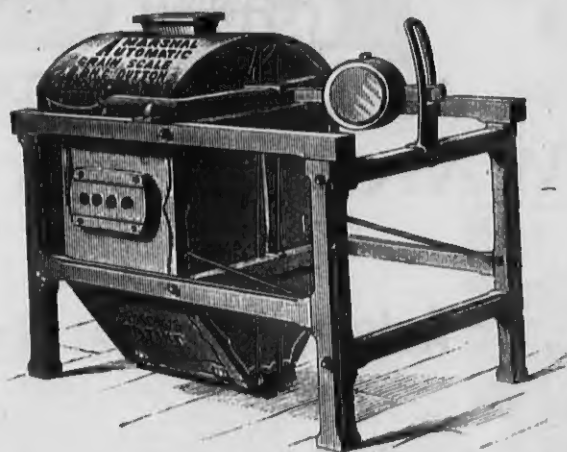
FLOUR MILLS,
BREWERIES,

Malt Houses,
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Distilleries, & Rice & Mills,

OIL MILLS,

Starch Factories, &c.



This Scale is designed for weighing and registering the amount of grain transferred from one point to another. The weighing and recording is absolutely correct, and the machines are sold with a guarantee to that effect. By their use the miller can tell at any time how much wheat he is using to make a barrel of flour, and know at once whether he is milling at a profit or loss. This scale can be used with equal advantage by shippers of grain or others who desire to know how much grain, flour, feed, bran, shorts, screenings, coal (or any other thing that can be spouted), is being transferred, with a perfect record made of same.

JACKSON, MICH., Nov. 13, 1885.

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Gentlemen: We have used the Marshall Automatic Grain Scale in our mill for six months, and it has proved entirely satisfactory.

Yours truly,

ELDRED MILLING CO.

J. B. DUTTON & CO., DETROIT, MICH.

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WILL CURE any case of Blind, Bleed- ing, Itching, or Protruding PILES.

Never Fails. Cure Guaranteed.
Price per Box, 50 cents and \$1.00.
[Physicians' Jars, for use in their practice, \$2.50.]

Dr. Williams' Indian Pile Ointment is sold by all Druggists, or mailed on receipt of price by the
Williams Mfg Co., Cleveland, O.

[Please mention this paper when you write to us.]

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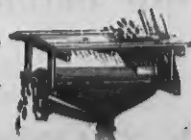
2000 BUSHELS PER DAY.

Shells wet or dry corn.

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No. 12 Fourth St., Painesville.



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Market Reports furnished to correspondents.

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Sell on Track West and to Arrive.
Fine Storage Cellars for Meat and Lard.
Handle all kinds of Grain.
Liberal Advances on Consignments.

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For cash or future delivery, a specialty.

Special information, indicating course of markets,
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Orders for Choice Milling Wheat Given Special
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ROOM 83,

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The purchase of grain for shipment to home markets
a specialty.

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CLARK & MARTIN, Commission Merchants FLOUR, GRAIN, FEED AND HAY,

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PATTERSON BROS. & CO., Commission Merchants

FOR SALE OF

WHEAT, CORN, OATS, RYE.

DEALERS IN

Seeds, Hominy, Grits, Steam Dried Corn Meal.

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ORDERS AND CONSIGNMENTS SOLICITED.

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Merchandise and Produce Broker,

FLOUR, GRAIN, HAY AND RICE.

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Solicits Orders for Carolina Rice and Peanuts.

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We give special attention to the purchase and sale of grain or provisions, for future delivery, here or in other markets.
Information regarding the present condition and future outlook for prices furnished on request.

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OF BOSTON.

Assets, - - - - - \$17,846,546.65
Liabilities, - - - - - \$15,288,761.16

Total Surplus, - - - - - \$ 2,607,785.49

BENJ. F. STEVENS, Pres't.

JOSEPH M. GIBBENS, Sec'y.

BOILER INSURANCE.

AMERICAN Steam Boiler Insurance Company

OFFICE, 45 WILLIAM ST., NEW YORK.
Cash Capital, \$300,000

ASSETS JANUARY 1st, 1885.
U. S. Gov. Registered Bonds, of which \$100,000 is lodged with the Insurance Department at Albany, N. Y. \$210,138.00
Cash in bank and in office 10,886.72
Premiums in course of collection 16,899.35

\$248,004.81

LIABILITIES.

Reinsurance reserve 40,235.00
All other demands 2,013.27

\$ 43,149.24

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Every miller and manufacturer having an A 1 risk, should apply for insurance in the Allied Mutual Fire Insurance Companies, of which S. H. Seamans, Milwaukee, Wis., is secretary.

CONNECTICUT

FIRE INSURANCE CO.,
HARTFORD, - CONNECTICUT.

Cash Capital, - - - - - \$1,000,000 00
Reserve for Reinsurance, - - - - - 580,689 40
Outstanding Claims, - - - - - 90,396 57
Net Surplus, - - - - - 303,683 78

Total Assets, Jan. 1, 1886, - \$1,974,749 75
Surplus to Policy-holders, - \$1,303,683 78

J. D. BROWNE, President,
CHARLES R. BURT, Secretary.
L. W. CLARKE, Ass't Secretary.

Attention! CUSTOM and EXCHANGE MILLERS.

We have made arrangements with Potter & Huntington, whereby we can furnish one of their EXCHANGE TABLES and UNITED STATES MILLER for one year, for \$1.50; the price of the Exchange Table alone is \$1.00. This is probably the best Table ever prepared for Millers doing an Exchange or Custom Business. The range is from 25 to 36 lbs. of flour to each 60 lbs. of wheat, and corresponding amount of bran and middlings. (Toll and waste in milling deducted.) There are twelve Tables each of a different grade of wheat, and each Table a different amount of flour and feed and can be used for any amount of wheat, from two lbs. up to any No. of bushels. There is no guess work about it, but all from actual experience. By it the Miller is always sure of his allowance of Toll. Hundreds of them are being sent to all parts of the United States and Canada. Send us One Dollar and Fifty Cents and we will send the Table and credit you for one year's subscription to the UNITED STATES MILLER. Address, UNITED STATES MILLER, 124 Grand Avenue, Milwaukee, Wis.

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MILWAUKEE & CHICAGO.

Fare to Chicago \$1 less than by railroad.

Chicago and Racine Line.

Leave Milwaukee.	FOR	Arrive at Milwaukee.
7:00 P. M.	Chicago	5:00 P. M.
7:30 A. M.	Chicago	5:00 A. M.
7:00 P. M.	Racine	5:00 P. M.

Fare to Chicago Only \$2.

Round Trips, \$3.50, meals and berths included on first-class tickets.

Sure connections at Chicago with all morning trains for all points East, South and Southwest.

Sheboygan & Manitowish Line.

Daily.*	Leave.	Arrive.
Milwaukee	7:00 a. m.	At Milwaukee 4:00 p. m.

Manistee & Ludington Line.

Daily, leave 7 P. M., except Sunday.

Saginaw & Bay City Line, Daily except Sundays.

Leave	Arrive.
Milwaukee.....7:00 p. m.	At Milwaukee, 8:00 a. m.

Making close connections at Ludington with F & P. M. R. R. for Saginaw, Bay City, Detroit, and all points in Northern Michigan and all points East.

Pierport & Frankfort Line.

Leave Milwaukee daily at 7:00 P. M., except Sunday.

Kewaunee & Ahnapee Line.

Leave Milwaukee Tuesdays, Thursdays and Saturdays, at 7 A. M.

Menominee & Sturgeon Bay Line.

Tuesdays, Thursdays and Saturdays at 7 A. M.

Green Bay & Escanaba Line.

Leave Milwaukee Tuesdays, Thursdays and Saturdays at 7 A. M., touching at Oconto, Menominee, Nahma, Fayette, Depere, and making close connections with railroad at Escanaba for Negaunee, Ishpeming, Quinnesec, Norway, and all Lake Superior points.

*Mondays. †Sundays.

G. HURSON, Secretary and Agent.

THOS. FORBES, Passenger Agent.

Green Bay, Winona & St. Paul

RAILROAD

IS THE SHORTEST ROUTE FROM

GREEN BAY

and all points in

EASTERN & WISCONSIN

—TO—

NEW LONDON,
STEVENS POINT,
GRAND RAPIDS,
WAUSAU,
MERRILL,
WINONA,
LA CROSSE,
CHIPPEWA FALLS,
STILLWATER,
HUDSON,
EAU CLAIRE.

ST. PAUL, MINNEAPOLIS,

and all points in MINNESOTA, DAKOTA,
and all points on the

NORTHERN PACIFIC RAILROAD and ST. PAUL,
MINNEAPOLIS & MANITOBA RAILROAD.

Passengers from all points on the CHICAGO &
NORTHWESTERN R'Y, south of Green Bay and
Fort Howard, connect with the

G. B. W. & St. P. R. R.

—AT—

FORT HOWARD JUNCTION.

They will find it

THE SHORTEST LINE

to all the above points.

THE PASSENGER EQUIPMENT

of this Road embraces all the modern improvements
and conveniences that tend to make traveling by
rail safe and comfortable.

Be sure your tickets read via the

Green Bay, Winona & St. Paul Railroad.

S. W. CHAMPION, GAVIN CAMPBELL,
General Pass. Agent. General Manager.

GREEN BAY, WIS.

Detroit, Grand Haven & Milwaukee RAILWAY LINE.

The Shortest, Cheapest and Quickest Route

—BETWEEN THE—

WEST AND EAST

New York, Boston, and all points in Northern
and Eastern Michigan.

COMMENCING MAY 17th,

the Palace Side-wheel Passenger Steamer "City of
Milwaukee," will leave Milwaukee daily, Sundays
included, at 11:45 noon and connect at Grand Haven
with Limited Express Train which leaves at 8:00 P. M.
Time, Milwaukee to New York, 32 hours.

Ticket Office, 99 Wisconsin Street,

—WHERE—

SLEEPING CAR BERTHS

can be secured. Dock, foot of West Water Street.

GEORGE B. REEVES, B. C. MEDDAUGH,

Traffic Manager, West. Pass. Agt.
Chicago. Milwaukee.

W. J. SPICER, Gen'l Manager, Detroit, Mich.

THE CHICAGO AND

NORTH- WESTERN

RAILWAY.

THE BEST ROUTE AND SHORTEST LINE BETWEEN

Milwaukee, Chicago, Council Bluffs, and Omaha.

The only line to take from Chicago or Milwaukee to
Freeport, Clinton, Cedar Rapids, Marshalltown, Des
Moines, Sioux City, Council Bluffs, Omaha and all
points West. It is also the

SHORT LINE

Between Chicago, Milwaukee and ST. PAUL OR
MINNEAPOLIS, and the best route to Madison, La
Crosse, Ashland, Duluth, Winona, Huron, Aberdeen,
Pierre and all points in the Northwest.

It is the direct route to Oshkosh, Fond du Lac, Green
Bay, Ishpeming, Marquette and the mining regions
of Lake Superior.

It is the LAKE SHORE and PARLOR CAR ROUTE
between

CHICAGO and MILWAUKEE,
PALACE SLEEPING CARS on night trains.

PALATIAL DINING CARS on through trains between
Chicago and Milwaukee,

Chicago and St. Paul,

Chicago and Council Bluffs,

And Chicago and Winona.

If you are going to Denver, Ogden, Sacramento, San
Francisco, Helena, Portland, or any point in the West
or Northwest, ask the ticket agent for tickets via the
"NORTHWESTERN" if you wish the best accommo-
dations. All ticket agents sell tickets via this line.

M. HUGHITT, H. S. HAIR,
General Manager. Gen'l Passenger Agent
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Milwaukee Office, 102 Wisconsin St.

Milwaukee & Northern Railroad.

THE OLD RELIABLE ROUTE.

17 Miles the Shortest Line

—TO—
GREEN BAY,

Fort Howard, Depere, Menasha,
Neenah, and Appleton.
Marinette, Wis., and Menominee, Mich.

—THE NEW ROUTE TO—

New London, Grand Rapids, and all points in
CENTRAL AND NORTHERN WISCONSIN.

The new line to Menominee is now completed, and
opens to the public the shortest and best route to all
points on the Michigan Peninsula.

CONNECTIONS.

AT PLYMOUTH with the Sheboygan and Fond du
Lac Division Chicago & North-Western R'y for She-
boygan and Fond du Lac.

AT FOREST JUNCTION with Milwaukee, Lake Shore
and Western Railway.

AT GREEN BAY with Chicago & North Western and
Green Bay, Winona & St. Paul Railroads, for all
points North and West.

C. F. DUTTON, General Supt.

ASHLAND M.L.S.&W.RY. ROUTE

The Milwaukee, Lake Shore & Western Railway has
been well named the Fishing and Hunting Line of
Wisconsin, passing, as it does, through thousands of
acres of but partially explored woods and within
easy reaching distance of lakes and streams that
have never been fished by white men, all well stocked
with the game fish for which Northern Wisconsin
waters are noted. The woods abound with game;
deer, bear, wolf, mink, beaver, pheasant, and other
game are quite plentiful.

THE ONLY LINE

From Milwaukee to the new Iron Mining District
in Wisconsin and Michigan—Gogebic, Wakefield,
Bessmer, Ironwood and Hurley.

Direct line to ASHLAND and beyond.

Sleeping cars between ASHLAND and CHICAGO.

The GUIDE BOOK, and other descriptive matter,

containing full information, maps and engravings
of the country traversed by the line, will be sent on
application to the General Passenger Agent.

CHAS. A. COLE, Gen. Agent, 105 Washington St.,
Chicago.

Chicago Depot, Cor. Wells and Kinzie Sts., (C. &
N. W. R'y.)

H. F. WHITCOMB,
Gen'l Manager.

CHAS. V. MCKINLAY,
Gen'l Pass. Agent.

MILWAUKEE, WIS.

This space will be occupied by
an advertisement of the

WISCONSIN CENTRAL LINE,

the recognized Popular Route be-
tween Chicago and St. Paul and
Minneapolis.



Owens and operates nearly 5,500 miles of thoroughly
equipped road in Illinois, Wisconsin, Iowa, Missouri,
Minnesota and Dakota.

It is the Best Direct Route between all
principal points in the Northwest, South-
west and Far West.

For maps, time tables, rates of passage and freight,
etc., apply to the nearest station agent of the Chi-
cago, Milwaukee & St. Paul Railway, or to any
Railroad Agent anywhere in the World.

R. MILLER,
General Manager.

A. V. H. CARPENTER,
Gen'l Pass. and Tkt. Agt.

J. F. TUCKER,
Asst. Gen'l Manager.

GEO. H. HEAFFORD,
Asst. Gen'l Pass. and Tkt. Agt.

MILWAUKEE, WISCONSIN.

For notices in reference to Special Excursions,
changes of time, and other items of interest in con-
nection with the CHICAGO, MILWAUKEE & ST. PAUL
RAILWAY, please refer to the local columns of this
paper.

UNITED STATES MILLER.

E. HARRISON CAWKER, EDITOR.

PUBLISHED MONTHLY.

OFFICE, NO. 124 GRAND AVENUE, MILWAUKEE.

SUBSCRIPTION PRICE—PER YEAR, IN ADVANCE.

To American subscribers, postage prepaid..... \$1.40
 To Canadian subscribers, postage prepaid..... 1.00
 Foreign subscriptions..... 1.25
 All Drafts and Post-Office Money Orders must be made payable to E. Harrison Cawker.
 Bills for advertising will be sent monthly, unless otherwise agreed upon.
 For estimates for advertising, address the UNITED STATES MILLER.

[Entered at the Post Office at Milwaukee, Wis., as mail matter of the second-class.]

MILWAUKEE, FEBRUARY, 1887.

We respectfully request our readers when they write to persons or firms advertising in this paper, to mention that their advertisement was seen in the UNITED STATES MILLER. You will thereby oblige not only this paper, but the advertisers.

MILWAUKEE AMUSEMENTS.

ACADEMY OF MUSIC—Performances every evening, Wednesday, Saturday and Sunday matinees.

GRAND OPERA HOUSE.—Performances every evening, and Wednesday, Saturday and Sunday matinees.

DIME MUSEUM—Performances every hour from 1 P. M. to 10 P. M. every day.

PALACE THEATRE—Every evening, Wednesday, Saturday and Sunday Matinees.

STADT THEATRE—(German)—Wednesday, Friday and Sunday evenings.

A BILL is pending before the Wisconsin legislature to regulate millers' and manufacturers' mutual insurance companies.

At the meeting of the sub-executive committee of the Millers' National Association, held in Chicago, Feb. 10, the claims of a number of patentees were discussed, and it was decided unanimously to compromise none of them. So long as no member of the Association is sued, the association will remain passive. Those who are not in the association must fight their own battle if they get into litigation with patentees. The total number of members in the Association is less than 1,000. This number should be largely increased.

A MECHANIC in Germany has, he claims, perfected an electric middlings purifier which can be manufactured at a reasonable cost. Many millers in this country will recollect the electric purifier which was on this market a few years ago. A considerable fortune was expended on the machine, but it failed to secure permanent recognition. It required a genius to run it—one who was both a miller and an electrical expert, and those kind of geniuses were not plenty in those days, and are not very numerous yet. There is no use in saying that electric purifiers will never succeed, but from past experience we believe their chance for ultimate adoption to be very small indeed.

THE long talked of "Inter-state commerce bill" has become a law. Taken all in all it may well be considered a congressional puzzle, so puzzling in fact that many congressmen do not claim to understand it and many others doubtless don't understand it who pretend to. All pronounce it "Ambiguous," (with a big A, we presume). One of the meritorious (?)

features of the bill is that it provides several fat offices for prominent politicians to scramble for and will, to a limited extent to be sure, reduce the surplus revenue in our national treasury. If the bill is liberally construed by the commission provided for, it will doubtless prove beneficial to the railroads at the expense of the general public.

CUSTOM and Exchange millers will consult their interests by reading the advertisement concerning "EXCHANGE TABLES" on another page.

KANSAS MILLERS' ASSOCIATION.

Representatives of 35 Kansas milling firms, in answer to a call, met at Newton, Kan., Feb. 8, and organized the Kansas Millers' Association with C. R. Underwood, of Salina, president; B. F. Wood, of Winfield, and Wm. Bowman, of Atchison, first and second vice-presidents; David Roberts, Great Bend, secretary; B. Warkentine Newton, treasurer. A constitution and by-laws were adopted and the association starts out in good shape. Knowing from personal experience the enterprising character of Kansas business men we do not doubt but that the success of the association will be all that could be desired.

NEBRASKA MILLERS' ASSOCIATION.

The Nebraska Millers' Association met at Lincoln, Neb., February 9. C. C. White was elected president; D. H. Harris, of Bennett, secretary, and R. Bridge, of Freemont, treasurer. A constitution and by-laws was adopted. After an interesting business and social session the convention adjourned to meet at Columbus, May 11, 1887, at which time it is expected that a majority of all the millers in the State will be present as members. Success to the Nebraska Association. Let other States follow their good example.

RECENTLY a barrel was produced from paper pulp which seems destined to supersede the wooden article. Its general appearance is that of a common wooden barrel thickly varnished, while only five pieces are used in making it. It is bound with ordinary wooden hoops, and the head is in one piece, so constructed that it fits into the barrel air-tight and is held firmly in place by a hoop without the use of nails. The body is seamless and the interior and exterior are glazed with a substance which renders the barrel impervious to moisture so that liquids of all kinds can be transported in it without loss.

On January 25th, Thomas Dougherty, the chief flour inspector of the New York produce exchange, certified that he had inspected 150 barrels of flour which had been shipped from a distance in these paper barrels and had found them to be all sound. It generally happens when flour is shipped in wooden barrels, that a quantity of it sifts through the cracks where the staves join and is lost. It was found by weighing the flour in paper barrels that none of it had been lost in this manner. The pulp used in the production of these barrels is obtainable from any fibrous substance and as there is hardly a locality where some such substance does not grow, the barrels can be manufactured almost anywhere. The bulk of the wood used for the manufacture of barrels is now brought from Western Ohio, Indiana, Michigan and Wisconsin, and as the supply is constantly de-

creasing there, the difficulty and expense of obtaining the timber is increasing. The inventors of this process for making barrels say that the weeds and rank grasses which grow on the meadows lying between Jersey City and Newark will produce an excellent pulp for this purpose, and that thus these practically waste lands may be made productive and profitable. The cost of manufacturing the paper barrels is no greater than that of making the wooden articles, and with the patented machine it is said two men can produce 600 barrels a day.

COMMISSIONER FINK AND THE INTER-STATE COMMERCE BILL.

One of the most interesting contributions to the Inter-state Commerce Bill, from the point of view of the railroads is that made by Commissioner Albert Fink in a carefully prepared communication published this week, in which he discusses the effects and bearings of the law upon railway rates. In this document Mr. Fink concerns himself with the interpretation of section 2, relating to discriminations, and section 4, relating to long and short hauls. He starts from the proposition that the object of the passage of the law was to make the transportation charges of the railroads "reasonable and just," and he says the sections in question must be construed in the light of this object. In the construction of both of the sections referred to he lays much stress upon the clause, "under substantially similar circumstances and conditions," which occurs in each. If this clause were not incorporated in section 2, the commissioner says, it would forbid the practice of pro-rating, but the insertion of the clause bringing up for consideration the different circumstances and conditions legitimately influencing rates apart from the service allows different rates to be charged for the same service.

Regarding the bearing of the clause upon the interpretation of the long and short haul section, Mr. Fink says that the "conditions and circumstances" must refer to the principal elements which control transportation charges, the cost of service and competition, using the word "competition" in the widest sense, and as including competition with water routes, with rail routes between markets, etc. If, he says, it can be shown that it costs a railroad more to carry freight for fifty miles over its road than to carry the same kind and quantity of freight one hundred miles, the clause would be an authorization for charging more for the fifty-mile service than for the hundred-mile service. The result would be the same in case it could be shown that the rate to the end of the hundred miles was fixed by water transportation at an amount hardly sufficient to pay the railroad the cost of doing the work. In this case he holds that the railroad company would be justified in making a lower rate to the station one hundred miles distant than it does to the station fifty miles distant. In short his view is that in all cases where the cost of the service and legitimate competition justify a higher charge for a shorter than for a longer haul, section 4 does not prohibit it. Mr. Fink's interpretation of the long and short haul clause, it will be seen, would make that much-discussed section a much more flexible provision than the earlier critics of the bill, from the railroad side, seem to have thought it.—Bradstreet's.

THE MICHIGAN MILLERS.

The Michigan Millers' Association convened in the parlors of the Kalamazoo House at 1 o'clock, Feb. 1, President D. B. Merrill, of Kalamazoo, presiding, and Frank Little, also of that city, secretary. There was a good representation of the milling interests of southern, western and northern Michigan present. Among those in attendance were C. G. Voigt, of Grand Rapids; F. W. Stock, of Hillsdale; George I. Crossette, of Constantine; E. C. Hinman, of Battle Creek, C. C. Kritzer, of Newaygo; Eli Wise, of Paw Paw; E. B. Badger, of Niles; A. C. Weeks, of Allegan; John A. Heck, of Tecumseh; Geo. H. Rix, of Lawton; Monroe J. Cornwell, of Cadillac; C. M. Darrah, of Big Rapids; Frank Newman, Jr., of Dorr; C. S. De Roo, of Holland; E. B. Martin of Read City; N. W. Howe, of Grand Rapids, and Martin Henderson, of Muskegon.

They at once began the discussion of topics of the greatest interest to their business and property protection.

Mr. Weeks, of Allegan, offered the following which was unanimously adopted:

Whereas, under act No. 148 of public acts of 1881, all insurance agents are prohibited from soliciting or acting as agents for foreign insurance companies in this state, not doing business under act of April 3, 1869, as amended, under a heavy penalty; and

Whereas, on account of said act No. 148, insurance companies have entered into a combination, thereby raising rates, until in some cases they are prohibitory, and

Whereas, we cannot see why any person should not have the privilege of taking out insurance in any company they may desire, whether it is organized under the law of 1869 therefore, be it

Resolved, That this meeting unanimously request that the act entitled "An act to prevent the soliciting or issuing of unauthorized fire or inland marine insurance policies in this State," such act being No. 148 of the act of 1881 be repealed.

This was followed by the appended preamble and resolution, offered by Mr. Hinman of Battle Creek, and the same was unanimously adopted:

Whereas, under the existing insurance laws, insurance companies doing business in Michigan have combined to advance the rates of insurance on property, and in many instances totally excluding certain lines of manufacturing property from obtaining insurance legally within this State, and

Whereas, the said board insurance companies by means of this combination and the existing laws exclude many good companies from legally doing business in this State, and permit a virtual monopoly of the business to a few board companies; therefore, be it

Resolved, That it shall be considered unlawful for two or more fire insurance companies doing business under the State laws, to form any combination to maintain insurance rates or to pool their earnings. Each insurance company shall act independently and make a rate on property to be insured independent of any other insurance company. Any violation of this act shall be punishable by a fine of \$500 for each company interested and \$50 per day for a continuance of the violation.

A committee consisting of Messrs. Hinman, Rowe and Stock was appointed to secure the proper drafting of a bill embodying the above principles and ideas, secure the printing and and forwarding of the same to every miller in the State and present it to the legislature.

The question of a bill which passed the legislature authorizing the organization of a Millers' Mutual Fire Insurance Company came up. The bill was drafted by Mr. Frank

Little of Kalamazoo, for the State Millers' Association, but before the Company was formed, some enterprising gentlemen at the capitol got away with the organization.

At the afternoon meeting the action of the National Millers' Association was discussed, and the opinion prevailed that that association had drawn from the pockets of the Michigan millers all that it ever would. There was a strong sentiment to increase the strength of the State Association, and as Mr. Voigt expressed it, "by united efforts the wheat grown in Michigan can all be ground in the State. There is no use exporting wheat."

Nearly all those present renewed their membership by the payment of \$5, and are willing to aid in securing the passage of their insurance bill and organize a strong State Association.

At the evening session the committee on nomination of officers made the following report which was adopted unanimously:

President, D. B. Merrill of Kalamazoo; Vice President, C. G. A. Voigt of Grand Rapids; Secretary and Treasurer, Frank Little of Kalamazoo.

The constitution of the State Association was read and adopted. The Secretary was instructed to have constitution published and sent to all millers in the State, with a view of getting all interested in the Association.

An hour was spent in discussing various matters of interest only to the millers themselves. The question of selling flour by brands and by letter were discussed at length and the sentiment was paramount that Michigan flour will stand on its merits anywhere and sell against the world's competition. The claims of patent holders on the methods of bolting flour by the roller process were discussed, Mr. Merrill stating that he had been threatened with suit for infringement of a patent of that kind.

TAXING PRINCIPLES.

If the socialists of the various shades in the United States would agree on a definite formulation of their principles they would be able to exert no small force in politics. But it is as hard for them to agree as it is for the doctors. Nor is the difficulty of agreement peculiar to this country. In France it is scarcely to be doubted that there would be a revision of the basis of taxation if there were even approximation to agreement on the form which reformation should assume. Need of revision exists in England, and indeed throughout Europe. The discussion of the subject in this country has received impetus from the plain platform declarations of Henry George and his immense run at the polls. But while public opinion of the weightier sort has been inclined to yield much to George in the matter of principle, the very classes of which he is the most distinguished exponent are not so harmonious as might be supposed. A committee at Chicago submitted a scheme the other day including what they considered necessary legislation in the interest of the laborers, and the intention to press the topic may be inferred from the presentation of it to a committee representing the Iroquois Club, the Union League Club, the Citizen's Association and the Commercial Club. But instead of insisting on the simplification of the basis of taxation, a la George, the workingmen's committee suggested to those powerful clubs the compelling an honest taxation of property, real

and personal, including bank stocks and deposits, securities and similar properties.

No form of property can so easily evade every public process, and none can be assessed with so sure a result of incalculable inequity. The notion that money constitutes wealth has been the most stubborn survival of crude thought, and probably can never be wholly expelled from political economy. But in the field of practical fiscal it is not difficult to learn that money cannot be successfully taxed—cannot be made to bear a direct and fair proportion of the public burden.—N. O. Picayune.

ROBERT GRIMSHAW's new work, entitled "The Pump Catechism" is just out. Price \$1.00. The work is a practical help to runners, owners and makers of pumps of any kind. It covers the theory and practice of designing, constructing, erecting, connecting and adjusting pumps. The work can be ordered from the UNITED STATES MILLER.

BREAD MAKING WITHOUT GRINDING

According to the French *Journal de la Boulangerie*, an attempt is being made to prepare bread without putting wheat grain through the usual process of grinding. The experimenter is M. Sezille, and his plan may be briefly stated. Water plays an important role in his process, as the experimenter proposes to produce from 319 to 330 pounds of bread from 220 pounds of grain. He enthusiastically proceeds immediately to compute the total saving to the French Republic through his process, and he modestly places the aggregate at 70,750,000 bushels of grain a year. The process may be characterized as a new method of preparing dough, and is nothing more than a repeated washing process. First of all, the grain is stirred about for some minutes in a trough filled with water, whereby the light and defective grains are brought to the surface and removed. After the defective grain is removed the sound remnant is left in the water a half hour longer, when it is freed from dust. The grain then passes into a cylinder of perforated tin made with roughened interior, where a portion of the epidermis, from 2 to 3 per cent. of the first or external layer is rasped off. The remainder of the husk together with the crease dirt, nominally insignificant, and according to Sezille only two per cent., he allows to pass into the dough. The second step is a warm bath, from 20 to 25 degrees Celsius, and about 400 pounds of grain are handled at a time. This water is mixed with a kilogramme, or 2.204 pounds, of half-dry yeast or barm and from 5 to 7 ounces of grape sugar. This is the essential point in this process. The grain remains about 24 hours in this bath, and is then ready for panification. Next follows the manipulation, which remotely resembles grinding, for rolls are brought into use, but it is in reality only a kneading process, as the cheese-like mass is merely crushed between the rolls in order to break up the tough husk and mix it with the rest of the dough. This completes the dough, which is salted and moulded into loaves. The process is thus seen to be very simple, but it is not short, for it demands time to take the place of the machinery used in milling. The competition with grinding processes offered by this curious method of M. Sezille is not likely to prove a dangerous one, for time and space and the necessary hand labor are money.

THE PRACTICAL GIRL.

She, with a milk pail on her arm,
Turns aside with her young cheeks glowing,
And sees down the lane the slow, dull tread
Of the drove of cows that are homeward going.

"Bessie," he said—at the sound she turned,
Her blue eyes full of childish wonder—
"My mother is feeble and lame and old,
I need a wife at my farm-house yonder.

"My heart is lonely, my home is drear,
I need your presence ever near me,
Will you be my guardian angel, dear,
Queen of my household to guide and cheer me?"

"It has a pleasant sound," she said—
"A household queen, a guiding spirit,
To warm your heart and cheer your home,
And keep the sunshine ever near it,
But I am only a simple child,
So my mother says in her daily chiding,
And what must a guardian angel do
When she first begins her work of guiding?"

"Well, first, dear Bessie, a smiling face
Is dearer far than rarest beauty;
And my mother, fretful, lame and old,
Will require a daughter's loving duty.
You will see to her flannels, drops and tea,
And talk with her lungs and liver;
Give her your cheerful service dear:
"The Lord be loveth a cheerful giver."

"You will see that my breakfast is piping hot,
And rub the clothes to a snowy whiteness;
Make golden butter and golden rolls,
And polish things to a shining brightness;
Will darn my stockings, and mend my coats,
And see that the buttons are sewed on tightly;
You will keep things cheerful and neat sweet,
That home's altar fires may still burn brightly.

"You will read me at evening the daily news,
The tedious winter nights beguiling;
And never forget that the sweetest face,
Is a cheerful face that is always smiling,
In short, you'll arrange in a general way,
For a sort of sublimity heaven;
For home, dear Bessie, say what we may,
Is the highest sphere to a woman given."

The lark sang out to the bending sky,
The bobolink piped in the nodding rushes,
And out of the tossing clover blooms
Came the sweet, clear song of the meadow
thrushes.

And Bessie, listening, paused a while,
Then said, with a sly glance at her neighbor,
"But, John—do you mean—that is to say,
What shall I get for all this labor?"

"To be nurse, companion and servant girl;
To make home's altar-fires burn brightly;
To wash and iron and scrub and cook,
And always be cheerful, neat and sprightly;
To give up liberty, home and friends,
Nay, even the name of a mother's giving;
To do all this for one's board and clothes;
Why, the life of an angel isn't worth living!"

And Bessie gayly went her way,
Down through the fields of scented clover,
But never since that sunny day
Has she won a glance from her rustic lover.
The lark sings out to the bending sky,
The clouds sail on as white as ever,
The clovers toss in the summer wind,
But Bessie has lost that chance forever.

(Julia Miles Dunn.)

NONSENSE.

MUSIC TEACHER—"The object of this lesson is to inculcate obedience. Do you know what obey means?" Apt pupil—"Yes, marm, I obey my pap." "Yes, that's right. Now tell me why you obey your father." "He's bigger'n me."

"Yo' says dey pumps dat ar coal ile outen de yarth? Den, honey, you looks out fer fun one o' dese days! Fer when de ile all clean gone offen de yarth's axtle she boun' to get

a-fire, and den prophesy be 'stablished shuah 'nuff!"

AN Alabama man recently divorced from his wife died from grief over the separation. He is supposed to have been overcome while endeavoring to sew on a suspender button.

BOUND FOR HEAVEN, BUT GOT INTO THE CANAL.—An anecdote is told of Moody, the revivalist, and a Canaler, to the following effect:

He was holding forth in Rochester, and in walking along the canal one day came across a boatman who was swearing furiously. Marching up he confronted him and abruptly asked:

"Sir, do you know where you are going?"

The unsuspecting man innocently replied that he was going up the canal on the boat, Johnny Sand.

"No, sir, you are not," continued Moody; "you are going to hell faster than a canal boat can carry you."

The boatman looked at him in astonishment and then returned the question:

"Sir, do you know where you are going?"

"I expect to go to Heaven."

"Not by a — sight; you are going into the canal!" and, suiting the action to the word, he took Moody in his arms and tossed him into the murky waters, where he would have drowned had not the boatman relented and fished him out.

EASTERN drummer (to St. Louis merchant)—That was a pretty bad failure of Isaac Stein's? Merchant—I'd? Vell, you vas right it vas. It vas de vorst failure of de season. His greditors made him bay 75 cents on the dollar. It is better to stay in peesness as to fail like dot.

"ANY chance for a situation in your street railway company, Mr. Jerkies? I am a good accountant."

"Where did you work last?"

"I was book-keeper in a bank."

"How long?"

"Ten years, sir."

"Book-keeper in a bank for ten years! Great, Scott, man, you ought to be able to buy me out by this time!"

It is told in Louisville that a party of Kentucky officials from Frankfort recently went into the country to brace up. Walking lazily along one day they came across a big rattlesnake lying across the road. All saw it, but no one paid the least attention to it, and each carelessly stepped over it and said nothing. A farmer watched the proceedings in horror, killed the snake, and asked the officials what was meant by such conduct. He was informed that it was such an every day affair for men to see snakes in Frankfort that no one thought anything of a single snake in the path.

A ST. PAUL clergyman is reported as saying that if Jesus Christ "run a carpenter shop here in this city, there are fully one-half of our church members who drive up to our churches in their fine carriages who would not speak to him. He could not get social recognition unless he lived on Summit avenue or belonged to a club."

NOT HIS FAULT—A counsellor who is a great believer in the law's delays, and never loses an opportunity to profit by them, recently moved in the superior court for the postponement of a case in which he was

attorney for the defendant. His opponent, who was anxious to proceed with the trial, said: "This is the fifth time that you have made excuses for not going on with this matter. Your Honor (to the judge) this case has been adjourned on his motion every time. I have always been ready for trial and I think he has had indulgence enough. The interests of my client are suffering on account of these continued delays."

"It is impossible," replied the dilatory lawyer, "for me to proceed at this time. My wife has just had a baby and I have had no time to prepare myself."

"Oh, well," answered the counsel for the plaintiff, testily, "you always have some excuse. I have never asked for any delay. In every instance in which a motion has been made for an adjournment you have been responsible for it."

"I hope you don't consider me responsible for this one," replied the procrastinating barrister; and then, noticing the smile upon the face of the judge, he added quickly, "It wasn't my fault, and I assure your Honor this will be the last time." Amid the general laughter that this occasioned the speaker sank into his chair in helpless confusion. The judge with his handkerchief pressed to his mouth, with difficulty mastered his desire to shout, and intimated with a wave of his hand that the case might go over for the term.

A VERY religious old darkey brought ten pounds of geese feathers into Baltimore to sell, and the buyer found them of such excellent quality that he said: "Uncle Reuben, if you will promise not to mix any hen's feather in I'll agree to buy all the geese feathers you can bring me." "I—I can't 'zactly promise on dat, Mas'r Sodus." was the hesitating reply. "Dar' am two kinds of religion in my house, an' while mine leans to'd clean geese feathers de ole woman's kinder allows hen's feathers to get mixed into de bag to make up weight. Reckon you'd better 'zamine de bag afore it goes on de scales. I nebber buys a coon up a tree."

A YOUNG widow in Waukesha, whose husband had been dead for a month, and whom she had always supposed free from the small vices, was overhauling his clothes the other day. She found a large plug of tobacco in a coat pocket. "Oh, George, George!" she exclaimed despairingly, "you and I will never meet in the good world." In another pocket of the same garment she found a life insurance policy for \$5,000, of which she had before known nothing, and she burst forth exultantly, "Oh, yes, we will, we will! Heaven will forgive him his one little fault!"

WHERE A RAILROAD COMPANY GETS ITS WORK IN.—"Can you tell me," he asked, as he entered an office on Broad street, the other day, "why the railroads should discriminate so heavily against dressed meat over live stock?" "Certainly, sir; dressed meat is dead, isn't it?" "Of course." "Well, anything that can't kick is always bulldozed by a railroad company."

THE deacon's wife wanted to jot down the text, and, leaning over to her scrapegrace nephew, she whispered: "Have you any cards about you?" "You can't play in church!" was his solemn, reproving answer; and the good woman was so flustered that she forgot all about the text.

NEWS.

E. E. STARK, miller, Clyde, O., has sold out.

MR. J. NEYMAN is erecting a grist mill at Center, Ala.

D. W. THOMPSON, of Abbottsburg, N. C., will rebuild his mill.

WHEAT HEATERS are again in favor among Kansas millers.

STEPHEN ANDRUS, miller, at Perrinsville, Mich., has sold out.

C. C. HARRIS & FREEMAN are building a mill at Jasper, Ala.

A STEAM corn mill has been erected at Liberty, Va., by John Bell.

AN elevator will be built soon at Chetopa, Kas., by B. S. Edwards.

A CORN mill has been erected at Rockwood, Tenn., by L. M. Walsh.

J. R. MCKINNEY, Blackwell's Station, Ga., is erecting a grist mill.

A CORN mill has been erected at Barnesville, Ga., by R. A. Weldon.

THE Winona (Minn.) Mill Co., are putting in another large steam engine.

W. H. LONG & CO., Howard, Pa., have started their 75-barrel roller mill.

S. F. STRAIGHT will shortly erect a \$20,000 flour mill at Hermosa, Dak.

JACKSON BROS. have one of the finest roller mills in Kansas, in Cawker City.

T. W. WILSON desires to sell his 50 bbl. steam mill near Albert Lea, Minn.

R. R. WALKER, of Harrisville, Pa., has started his 50-barrel full roller mill.

J. M. TAYLOR, Slate Mills, Va., is refitting his flour mill with roller machinery.

J. C. HARVEY, Plover, Wis., will rebuild his mill, which was destroyed by fire.

A STOCK company has been organized at Dublin, Va., to build a roller flour mill.

CAPT. D. P. DYER, of Kansas City, Mo., will build a large flour mill at Baxter, Kan.

JACOB EMMERT, of Greensburg, Ind., is erecting a 50-barrel water power roller mill.

A \$10,000 mill is to be erected at Chase, Rice Co., Kas. The plans have not yet been adopted.

THE firm of Jackson & Hosken, Dayton, Wis., has dissolved; Mr. Joseph Jackson succeeds.

AUG. SCHWABHEIM and others of Chippewa Falls, Wis., will build a 75 bbl. mill next spring.

FRED MYERS, Poplar Bluff, Ark., will rebuild his saw and grist mills, lately burned, at once.

BURNED—Jan. 19, E. R. Stewart & Son's mill at Clifton, O. Loss \$25,000. Insurance \$12,000.

It seems quite probable that quite a number of new mills will be erected in Nebraska this year.

THE Loup City Roller Mill Co., of Loup City, Neb., has incorporated with a capital stock of \$50,000.

THE Knoxville Flouring Mills, Knoxville, Tenn., will put in about \$4,000 worth of new machinery.

P. P. DONAHUE is the new head miller of Perry Hutchinsons 300 bbl. roller mill at Marysville, Kas.

JOHN D. KNOX & CO., of Topeka, Kan., have contracted for machinery for a 75-barrel full roller mill.

At a recent meeting of the Iowa Millers' Association, J. J. Snuffer of Cedar Falls, was elected president.

WEBSTER, ROOKS CO., Kas., wants some one to build a mill at that place. The citizens are willing to assist liberally.

It is reported that Mr. Warner, Shelbyville, Tenn., contemplates erecting a \$6,000 flour mill at Shepherdsville.

E. M. STAUFFER, Quarryville, Pa., will erect a large steam mill, with all improved machinery, for making roller flour.

MR. RITTEL's mill at Chaska, Minn., will be remodeled to the roller system this spring with about 100 bbls. capacity.

A 50 bbl. mill will probably be built at Nicollet, Minn., this year by H. A. Anderson and others of that place.

THE "Farmers' Exchange Flouring Mills" have been incorporated at Metropolis City, Ill. Capital stock, \$10,000.

THE Ashton Flour and Feed Co. has been incorporated at Muscatine, Iowa, Wm. Huttig, President. Capital stock, \$10,000.

THE Maryville City Mills Co., capital stock \$8,000, has been organized at Maryville, Tenn., to build a 50-barrel roller flour mill.

ALEX. WOODS, of Smith's Falls, Ont., contemplates erecting a roller mill of from 75 to 100 barrels' capacity the coming spring.

THE Geo. T. Smith Middlings Purifier Co., of Jackson, Mich., recently sold C. A. Pillsbury & Co., of Minneapolis, 41 centrifugal reels.

BURNED—Robert Moore's mill at Waterville, Kas. Loss about \$25,000. Insurance \$17,000. Mr. Moore has had two mills burned heretofore.

J. O. STOWN & CO., Sterling, Kas., will soon make another large addition to their mill which will give it a daily capacity of about 300 bbls.

THE Goldcamp Milling Co. has been organized at Ironton, Ohio, with a capital stock of \$16,000. John S. Goldcamp and others, incorporators.

THE Phoenix Milling Co., of Tracy, Mo., will tear down their old structure and erect a substantial brick mill, to be operated on the roller system.

"Callar's Flour Mill," at Stewartville, Mo., is to be enlarged and made a roller mill, at a cost of \$4,000. The contract for same has not been let as yet.

W. F. PHELPS, is the new secretary of the Duluth Chamber of Commerce. He recently resigned the position of secretary of the St. Paul Board of Trade.

DR. J. R. HOWES new mill in Duluth, Minn., has a most desirable location having perfect receiving and shipping facilities by both rail and water. The mill is already doing an excellent business.

J. L. WHIPPLE talks of removing his first class flour mill from Wyandotte to Detroit, Mich., unless a stock company is formed to buy him out. He will establish a mill in Detroit anyhow.

THE Avery Elevator Bucket Co., Cleveland, O., have now in successful operation a press which turns out rapidly, seamless, steel elevator buckets. They are extremely low in price and are very durable.

H. M. LEWIS & CO., proprietors of the "Casco Roller Mills," at Camp Point, Ill., are doing a thriving business with J. T. Little as head miller. Their mill has a capacity of 150 barrels per day.

STARR & CO., of Wheatport, Cal., have just completed their new mills, and A. D. Starr, president of the company, is now in the East having plans drawn for and selecting the engines and machinery. In 1888 this company exported, largely to Europe, about 500,000 barrels of flour.

THERE is talk of a large flour mill and elevator being built at Keewatin, Manitoba, the mill to have a capacity of 1,000 barrels daily. A. Mitchell, of Montreal, and S. Mather, of the Keewatin Lumbering Co., are mentioned in connection with the scheme. There is fine water-power at Keewatin for running machinery.

THE Citizens Milling Co., of Toronto, have remodeled their mill to the full roller process. Messrs. Inglis & Hunter furnished the machinery, using "Case" Rolls, and altering their rolls from gear to the "Case" Belt Drive, and putting the "Case" Patent Vibratory Feed on, all over the mill. They made a very successful start.

A TERRIFIC explosion completely destroyed the roller flouring mill at Carberry, Manitoba, Jan. 6, caused by the ignition of flour dust. Mr. Ritchie, the miller in charge, was badly burned about the face and hands. Some of the heavy timbers in the mill were thrown sixty feet. The loss is estimated at \$35,000. The building, which is a complete wreck, will be rebuilt.

MR. JOS. SCHULTZ, manager of the Phoenix Iron Works, St. Cloud, Minn., informs us that his father, Mr. Jos. Schultz, will erect near the works a model flouring mill, of a capacity of 75 barrels per day, which will be fitted up with the milling machinery made by the Phoenix Works, and be run not only for profit but also for the purpose of showing in practical operation the machinery manufactured by the Iron Works Co. The new mill will be fitted to grind wheat, corn, rye and oats, and will make flour by a new process invented by Manager Schultz himself, a flour which it is said is better in every way than

any manufactured by the Minneapolis mills. The products of the mill will be merely for the local trade, but it will add another important enterprise to St. Cloud's rapidly growing list, and will increase the indebtedness of this city to the energetic Phoenix Company.—*St. Cloud Journal-Press*.

THE flour milling industry is well represented in Newmarket, Ont. Without any exception, the finest mill north of Toronto is situated here. The mill is a comparatively new building of white brick, 45x100 feet, five stories high, with a storehouse attached, 32x60, capable of storing 30,000 to 40,000 bushels of wheat. The power is water, with steam auxiliary, and has a capacity of 200 barrels per diem. The mill is just now being remodeled to the full Hungarian process; the bolting will be done on an entirely new system, there being none like it in Canada. The machines are built especially for this system of working, and are much more economical and efficient, and take up much less room, than the old style of bolt. The proprietor, Mr. B. F. Reesor, claims that when completed the mill will be equal to any in the United States, and second to none in the Dominion. The trade will be principally in strong flours, for bakers' and family use.

PUBLICATIONS RECEIVED.

IN the February *Century* Mr. Edward Atkinson continues, in his second paper concerning "The Relative Strength and Weakness of Nations" the skillful application of statistics to social science for which he is conspicuous. In pointing out the weakness of nations, comparative data concerning national debts and area of territory per capita and the size of standing armies of leading nations are not only presented but are graphically expressed in an ingenious manner. A very interesting exhibit is made of the relative proportion of "the assumed product per capita (of various nations) which is absorbed by national taxation only," on the basis of previous calculations. This, of course, goes far toward making clear some of the chief elements of the weakness of nations, in contrast to which the exhibit for the United States is marked.

IN *Scribner's Magazine* for February James Russell Soley, U. S. A., refers to the condition of the American navy in 1861, and suggests improvement in various of the naval departments. As an incentive to the best endeavor on the part of naval officers he recommends a radical change looking to the recognition of individual merit. He claims that a training school, with modern ships, and modern weapons is a necessity. A trained naval reserve force should be ready in case of need, and finally he says that a dozen or twenty ships do not make a navy, but that the process of creating a navy must go on year after year in order to embody the latest inventions and improvements.

THE ART AMATEUR for February has for its most striking feature an admirable double page crayon drawing—"The Man at the Wheel,"—by E. Renouf. Scarcely less noticeable is the fine charcoal head of Alfred Tennyson, by Jacques Reich, from the drawing in the Salmagundi Exhibition. Among the numerous practical designs are several for chasubles and chalice veils, a panel of oak leaves and acorns for wood carving and decorations for a fruit plate (apple) and a square vase (phlox). A long and interesting illustrated notice is given of the A. T. Stewart collection, which is to be sold next March. The specially practical topics treated in this number are fruit and portrait painting in oils, the use of water colors, china painting and church vestments. There are also several useful articles on interior decoration, including a suggestive talk on the "Color Scheme of a Room." The various exhibitions and other themes of current art interest receive pungent notice in "My Note Book" and the Boston and Paris correspondence. A prize of One Hundred Dollars for the best design for a new cover for THE ART AMATEUR is offered by the publisher, Montague Marks, 23 Union Square, New York.

IN the current number of *Harper's Monthly*, Sir Edward J. Reed concludes his interesting review of the "Navies of the Continent," discussing the naval strength of Italy, Russia, Germany, Austria and Turkey. His conclusions are worth noting. Regarding the minor naval powers he says that they are falling more or less completely out of the lists of naval competition. Touching the more important of the continental naval powers, he says: "The naval policy of Germany is defensive. She is almost without pretensions upon the open sea. Turkey is slowly

but surely succumbing to Russia, and in the near future the Russian Black sea fleet will hold unquestioned mastery over Turkey. Italy has a naval role of her own to play in Europe, and on the whole is playing it well. Austria would do well to hesitate, in her present naval condition, before again exposing herself to the swift and destructive onslaughts which the tremendously armed and excessively fast Italian ships could make upon her. France is a really great naval power, and there are circumstances which would make a naval conflict between her and England one of the most uncertain in the history of the world."

HOW IT WORKS.

A Chicago commission merchant has been telling *Daily Business* how the bucket-shop manipulation of the wheat market is carried on. He said:

"Whenever the market looks especially strong everybody wants to buy a little wheat. The fellows on the Board buy some, and every fellow in the country invests a few dollars. The country trades through the bucket-shops, and the aggregate amount of wheat bought in small lots is very large; some days, I am reliably informed, running up as high as 50,000,000 bushels. Two or three central concerns in this city have 400 or 500 agencies and branch bucket-shops scattered through the country, and they get reports every afternoon of the amount of business done at each one of them. These few central concerns handle two-thirds of the bucket-shop business of the whole country. The country shops clear their trades through the main houses in this city, and every afternoon the managers go home knowing exactly how the country stands. On an active bull day they leave off 40,000,000 or 50,000,000 bushels short to the country. The next morning, if the conditions are favorable, a certified check for \$50,000 is put in the hands of Slapdash, the broker, who is directed to 'unload' 1,000,000 bushels of wheat at the opening regardless of price. The wheat must be got rid of at once. The market closed weak the night before, and it is safe to assume that the country had caught on at the top, with its 1c. margin. Mr. Slapdash does not know anything about that, nor does he care. He knows that he has received a certified check for \$50,000 from a capitalist, perhaps unknown as a bucket-shopper, and an order to get rid of 1,000,000 bushels of wheat quick. This he proceeds to do after the most approved fashion, breaking the market in a jiffy within a split, 1c. or 1c. of the limit to which the country is margined. The scalpers tail on and help the thing along. They always try to go with the big orders—to swim with the current. When the market gets down to within a small fraction of the freezeout limit. Broker B appears with a certified check for \$12,500 or \$15,000 in his pocket and a crab in his hand in the shape of an order to sell 250,000 or 300,000 bushels of wheat the minute the price touches—well, we will say 84c. 'Dump it,' are his instructions; 'offer it below the market; sell it at 83½, sling it.' An official quotation, 83½c., goes out over the tape. The 1c. margins of 20,000 victims who were long 40,000,000 or 50,000,000 bushels of wheat to the bucket shops are wiped out, and \$400,000 or \$500,000 in money goes into the coffers of the bucket-shops. The manipulators have gained their point. At this point broker C, representing the bucket-shops, appears in the pit with a \$50,000 certified check in his pocket, and an

order to buy 1,000,000 bushels of wheat. The market turns up, and the tailers go with it. It reacts 1 to 1c. The wheat that was dumped has been bought, the deal adjusts itself, and the bucket-shop man gets out with a very small loss, or perhaps no loss at all. Brokers Slapdash, B and C pocket nice commissions, the victims growl at the Board of Trade, call it a robber and go right along feeding the bucket-shop tiger. This game has been played again and again to my certain knowledge, and it will continue to be played until the law steps in to protect the public by wiping the bucket shops out of existence."

STREET CLEANING IN PARIS.

BY H. VIVAREZ.

The removal of household refuse is a matter which has attained to far more importance in Paris than in London. The density of the population is much greater, while the consumption of vegetables which gives rise to a large amount of waste matter, is much more considerable. Previous to the year 1870 the inhabitants of Paris were permitted to place their domestic refuse on the edge of the pavement in front of their houses, provided that they did it early in the morning. In reality those deposits commenced to be made as soon as the obscurity of the evening favored the act, and a serious nuisance was thus created. In the year 1846 the authorities had attempted to oblige the inhabitants to keep their waste in their houses until the moment when the dust-cart passed to collect them. That regulation was renewed in 1870, on account of the public health during the siege of Paris. But alike in 1846 and in 1870 the law was a dead letter, particularly in the more remote districts. It was not only opposed by the negligence and ill-will of the inhabitants, but there was mixed with these a question of another order.

There exists in Paris a special industry which supports about 15,000 persons, and produces seven or eight millions of francs per annum. It is the rag-picking (*chiffonage*) carried on by a nocturnal population which sally forth at dusk, basket on back and hook in hand, to pick out from the heaps of refuse, by the light of a lantern, rags, paper, bones, in a word, anything which can be utilized in the slightest degree. Contrary to what might be expected, the population is generally composed of thoroughly honest people, of excellent character, and this has always contributed to secure for the craft of *chiffonage* the sympathy of the press and the public. It is to the interest of the rag-pickers that the refuse should lie in the street as long as possible, in order that they may turn it over and over, and by patient search extract everything of value. This consideration has always had great weight in the amount of observance accorded to the regulations. Recently the law has been put vigorously into force by E. M. Poubelle, Prefect of the Seine, and the question of *chiffonage* has been again discussed by the press most vigorously. This time, however, the authorities of the city have prevailed, thanks to their energy and moderation. The new rule is dated March 7, 1884, and its chief provisions are as follows: (1) It is forbidden to throw into the public thoroughfare, at any time of the night or day, either domestic refuse or sweepings from the interiors of buildings. (2) From the present date the landlord of each property must deposit every morning, either

on the pavement outside, or within the doorway, at a point perfectly visible and accessible, one or more receptacles of sufficient capacity to contain the household refuse of all the tenants of the building. These receptacles must be placed at least one hour before the official time of collection, and must be carried back into the interior of the building within a quarter of an hour after the passage of the dust-cart. (3) The receptacles must satisfy the following conditions: Each must have a maximum capacity of 120 litres (4.23 cubic feet) and must not weigh more than 15 kilogrammes (33 lbs.) empty. If it be circular it must not be more than 55 m. (21.6 in.) in diameter, and if elliptical or rectangular it must not exceed 50 m. (20 in.) in width, nor 80 m. (31.5 in.) in length. In any case the height must not be greater than the smaller of the two horizontal dimensions. The receptacles must have two handles at the upper part. They must be painted or galvanized, and bear in plain characters the number of the house and the name of the street.

These rules are in force and cause no difficulty in execution. The population of Paris have adapted themselves to the new order of affairs; the opposition of the *chiffonniers* is gradually dying out, while public sanitation has realized a sensible improvement.

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ITEMS OF INTEREST.

AMERICA LEADS THE WORLD IN STEAM AND WATER POWER.—This country leads all others in steam and water power available for industries. We have 8,152,000 horse-power in steam and 61,150,000 in river. The United Kingdom has 7,780,000 in steam, and only 4,500,000 in its rivers; Germany, 4,325,000 in steam and 5,040,000 in rivers; France, 3,573,000 in steam and 6,130,000 in rivers; Russia, 1,365,000 in steam and 46,115,000 in rivers; Austria, 1,200,000 and 5,830,000 respectively; Italy, 480,000 and 3,960,000; Belgium, 595,000 and 370,000; Holland, 216,000 and 530,000. All Europe represents 20,917,000 steam horse-power and 72,505,000 river horse-power. The steam power is in active use, but less than one-tenth of the river power is used.

THE WAY RATS CLIMB.—Where do these rats come from? Originally from the sewer and when the cellar floor is not made of cement or stone they are sure to get into the house. When the track is once opened they keep it well beaten. They go from the cellar all over the house. The lead pipes in the wall make excellent ladders for them to climb. They are expert climbers. When the house is to be cleaned the pipes are greased, if they are to be got at, so as to keep the rats in one part of the house. If this cannot be done then wire nets, with sharp-pointed sides, are hung directly near the holes. These tickle their whiskers, and when they raise the net and pass under it they cannot get back to the hole. In this way they are all corralled in one place. It takes time, as they are cute, and some of the old fellows cannot be led into any sort of traps. If there is any thing in their way they will go miles out of their route to get around it.—N. Y. Tribune.

PRACTICAL NOTES ON BELTING.

The formula given below is based on the experience of engineers in Great Britain, America and France. It serves the purpose of showing what width of belt will do the required work most efficiently and at the same time last the maximum number of years. Many engineers, more especially in this country, are content to provide belts of greatly reduced width and of single substance, instead of double, hence the frequent complaints of their stretching, breaking and lasting so short a time. As a matter of convenience and arrangement of machinery, a narrower belt than that which is shown by the generally accepted formula is often imperative; but in the absence of any such condition it is questionable economy to depart materially from it. The following may be regarded as an axiom: To use a belt of ample width and substance for the work required is to secure for it a long existence, with satisfaction to all concerned.

Directions for calculating the width of belts required for transmitting different numbers of horse-power:—Multiply 33,000 by the numbers of horse-power to be transmitted; divide the amount by the number of feet the belt is to run per minute; divide the quotient by the number of feet or parts of a foot in length of belt contact with smaller drum or pulley; divide the last quotient by six, and the result is the required width of a tanned leather belt in inches.

Explanations.—The figure 33,000 represents the number of pounds a horse is reckoned to be able to raise one foot high in a minute. To obtain the number of feet a belt runs in a minute, find the number of revolutions per minute of the driving shaft and multiply by the circumference of the drum, which is always 3.1416 its diameter. The final division by six is because half a pound raised one foot high per minute, is allowed to each square inch of belting in contact with the pulley; a pound must therefore be allowed to two square inches, or six pounds to a strip one foot long and one inch wide.

Example.—Required the width of a single belt, the velocity of which is to be 1,500 feet per minute; it has to transmit 10-horse power, the diameter of the smaller drum being four feet with five feet of its circumference in contact with the belt.

$$33,000 \times 10 = 330,000 \div 1500 = 220 \div 5 = 44 \div 6 = 7\frac{2}{3} \text{ inches, the required width of belt.}$$

Directions for calculating the number of horse-power which a belt will transmit.—Divide the number of square inches of belt in contact with the pulley by two; multiply this quotient by the velocity of the belt in feet per minute; again we divide the total by 33,000, and the quotient is the number of horse-power.

Explanations.—The early division by two is to obtain the number of pounds raised one foot high per minute, half a pound being allowed to each square inch of belting in contact with the pulley.

Example.—A six-inch single belt is being moved with a velocity of 1,200 feet per minute, with four feet of its length in contact with a three-foot drum. Required the horse-power:

$$6 \times 48 = 288 \div 2 = 144 \times 1200 = 172,800 \div 33,000 = \text{say } 5\frac{1}{2} \text{ horse-power.}$$

It is safe to reckon that a double belt will do half as much work again as a single one.

Hints to users of belts.—1. Horizontal, inclined, and long belts give a much better effect than vertical and short belts.

2. Short belts require to be tighter than long ones. A long belt working horizontally increases the grip by its own weight.

3. If there is too great a distance between the pulleys, the weight of the belt will produce a heavy sag, drawing so hard on the shaft as to cause great friction at the bearings; while at the same time the belt will have an unsteady motion, injurious to itself and to the machinery.

4. Care should be taken to let the belts run free and easy so as to prevent the tearing out the lace holes at the lap; it also prevents the rapid wear of the metal bearings.

5. It is asserted that the grain side of a belt put next to the pulley will drive 30 per cent. more than the flesh side.

6. To obtain a greater amount of power from belts, the pulleys may be covered with leather; this will allow the belts to run very slack and give 25 per cent. more durability.

7. Leather belts should be well protected against water and even loose steam and other moisture.

8. Belts working in very wet places should be ordered to be water-proofed.

9. In putting on a belt, be sure that the joints run with the pulleys and not against them out.

10. In punching a belt for lacing, it is desirable to use an oval punch, the larger diameter of the punch being parallel with the belt, so as to cut out as little of the effective section of the leather as possible.

11. Begin to lace in the centre of the belt, and take care to keep the ends exactly in line and to lace both sides with equal tightness. The lacing should not be crossed on the side of the belt that runs next the pulley. Thin but strong laces only should be used.

12. It is desirable to locate the shafting and machinery so that belts shall run off from each other in opposite directions, as this arrangement will relieve the bearings from the friction that would result where the belts all pull one way on the shaft.

13. If possible the machinery should be so planned that the direction of the belt motion shall be from the top of the driving to the top of the driven pulley.

14. Never overload a belt.

15. A careful attention will make a belt last many years, which through neglect might not last one.—*Textile Manufacturer.*

RECIPES WORTH KNOWING.

TO STAIN BRICKS.—For staining bricks red, melt one ounce of glue in one gallon of water, add a piece of alum the size of an egg, then one-half pound of Venetian red and one pound of Spanish brown. Try the color on the bricks before using, and change light or dark with red or brown, using a yellow mineral for buff. For coloring black, heat asphaltum to a liquid state, and moderately heat the surface of the bricks and dip them. Or make a hot mixture of linseed oil and asphalt, heat the bricks and dip them. Tar and asphalt are also used for the same purpose. It is important that the bricks be sufficiently hot, and be held in the mixture to absorb the color to the depth of one-sixteenth of an inch.

A GOOD DISINFECTANT.—Copperas (sulphate of iron) one pound dissolved in a pail

of water is an effectual and convenient disinfectant for drains, cesspools, sinks and all waste-pipes.

HOW TO CLEAN BRASS.—It is a great mistake to clean brass articles with acid, as they very soon become dull after such treatment. Sweet oil and putty powder, followed by soap and water, is one of the best mediums for brightening brass and copper.

PAINT FOR SHEET IRON.—A satisfactory paint for sheet iron is made of varnish, one-half gallon; boiled linseed oil, one-half gallon; add red lead sufficient to bring to the consistency of common paint. Apply with a brush. Applicable to any kind of iron work exposed to the weather.

FIRE PROOF SHINGLES.—An exchange says that shingles may be made fire-proof by setting the butts into a trough of water into which half a bushel of each, of lime and salt and six pounds of potash have been dissolved.

STOPPING RUNAWAY HORSES.—The following method of stopping runaway horses would seem to be good, but few horse owners would care to advertise the vicious character of their animals by such a conspicuous device; neither would the owner of a horse ordinarily safe wish to adopt such a cumbersome contrivance as a regular part of his harness: "Place a cord with a running knot around the horse's neck near the neck strap. To this slip-noose attach a pair of reins which may be thrown over the dash-board ready to be seized at once. When the horse starts take up this cord and tighten the horse's throat. The most furious horse thus checked stops instantly and will not fall or kick. This is a Russian discovery."

NEURALGIA.—A very simple relief for neuralgia is to boil a handful of lobelia in half a pint of water, till the strength is out of the herb, then strain off and add a teaspoonful of fine salt. Wring cloths out of the liquid as hot as possible, and spread them over the part affected. It acts like a charm. Change the cloths as soon as cold, till the pain is all gone; then cover the place with soft, dry covering till perspiration is over, so as to prevent taking cold; or

Take two large tablespoonfuls of cologne and two teaspoonfuls of fine salt; mix them together in a small bottle; every time you have an acute affection of the facial nerves, or neuralgia, simply breathe the fumes into your nose from the bottle, and you will be immediately relieved; or

Prepare horse-radish by grating and mixing with vinegar, the same as for the table, and apply to the temple when the face or head is affected, or to the wrist when the pain is in the arm or shoulder.

FLOUR MILL DIRECTORY FOR 1886-87.

All persons desiring to reach the milling trade should invest at once in a copy of Cawker's American Flour Mill Directory for 1886-7, issued Feb. 1, 1886. It is carefully compiled; contains 18,289 addresses in the United States and Canada; shows in thousands of instances the capacity, power and system of milling (i. e. whether the stone or roller or combined system is used). It also contains a list of millwrights and American and European flour brokers. The book is sold at \$10 per copy and can be obtained by addressing the United States Miller, Milwaukee, Wis. This Directory is published once in two years.

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FLOOR GRANARIES.

A sensible article upon the subject of granaries, and written by G. Luther, has lately appeared in pamphlet form, from which the following is taken: An ordinary warehouse, having five or six floors, with few or no middle partitions, so that the whole floor can be used for storage grain in heaps of moderate depth, is called in Germany a "floor granary." Most of the European grain warehouses are built in this style. Handling the grain in sacks is preferred, as it often happens that these granaries are used for other purposes. The grain is shot down on the floor, and heaps formed, which are separated by gangways. The depth of these heaps (or beds) varies from three to four feet; in Russia six feet. The only means of preserving the grain is by a current of air passing over the grain heaps. It is, therefore, necessary to provide such buildings with as many windows as possible, in order to insure draught. The stored grain, especially when wet, has to be frequently turned, which is only practicable by the employment of hand-labor. The great drawback to this system of granaries consists in the expense involved in the employment of this manual labor, not only for the turning of the grain, as previously mentioned, but also for shoveling to and from the elevators or traveling bands, when being stored or removed. In order to economize expense in this respect, an arrangement has been adopted in which the floors consist of a series of hoppers. The advantages of storing in warehouses of the latter description are, however, dearly bought, as a simple calculation will readily prove the difference between the space generally utilized and that which ought to be utilized. Take, for instance, the area of a building 100 feet by 50 feet; with six floors, each floor 10 feet high, in which the grain is stored in heaps of four feet in height. The cubic area of a warehouse of these dimensions would be, with an allowance of 25 per cent. for gangways, 100x50x4x6=90,000 cubic feet; whereas the contents of the building should be represented by 300,000 cubic feet. It therefore follows that only about one-third of its capacity is utilized. This means an increase of 220 per cent. in the current expenses in regard to storing space, and an increase of 330 per cent. in regard to material and labor for building, together with a proportionate increase for interest on capital, labor, building material, fire insurance and amortisation. As the walls and floor construction of such granaries require to be very strong compared with those erected on the silo system, which need only to be very primitive in construction, and considerably less costly, it needs but little consideration in erecting a granary, to which system the preference should be given.

Mrs. O'GRADY's experience in the middle of the ocean going to Coney Island:—I live down on the corner of 14th St. and 5th Ave., N. Y. The other day Julia McIntyre comes to me, and says she to me, Mrs. O'Grady, how in the devil would you like to go on an excursion to Coney Island? O, Julia, sure I'd like to go first rate; sure I be's a hard workin' woman; I be's workin' and washin' me ten and twelve hours a day. All right, says Julia, be ready Sunday mornin' at 8 o'clock, and we'll start from the corner of

14th and 5th Ave. So glory be to God, Sunday mornin' come all bright and warm, and I was all dressed in me best. We went down and got aboard the boat. I was feeling first-rate, drinkin' lager beer and eating pretzels, and dancing the Society and the Racquet, until the boat got out in the middle of the ocean and then I felt awful sick in me stomach. Julia McIntyre comes to me, and says she to me: Mrs. O'Grady, what in the civil is the matter wid ye? You're lookin' very pale. You'd better go and see the doctor on board the boat. So I went to the doctor, and says he to me, me good woman, you're very ill, you'd better have a Seidlitz powder. So I sid, let's have it. So he gave

me two powders, one was in a blue paper, and the other in a white one; says he to me, me good woman, ye puts one of these in one glass and one in the other, and drink both glasses at the same time. Bad 'cess to him, how in the devil do ye suppose I could drink both glasses at the same time. Sure I'm no contortionist. So I drank one glass after the other, and, Holy Father, I thought I was an animated gashouse! Julia McIntyre comes up to me and says she to me: Mrs. O'Grady, what in the devil is the matter wid ye? You do be fizin away for all the world like a soda-water fountain. O God, I was so thirsty, I'd given \$1.85 for the skues of a lemon and me-self back to the corner of 14th and 5th Ave.

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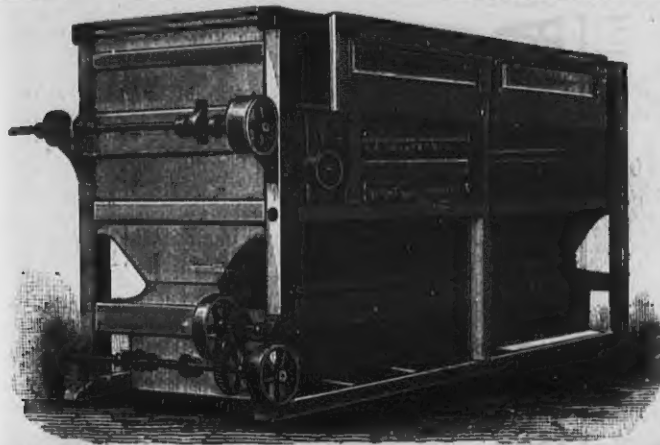
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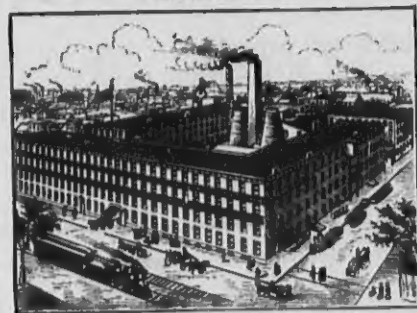
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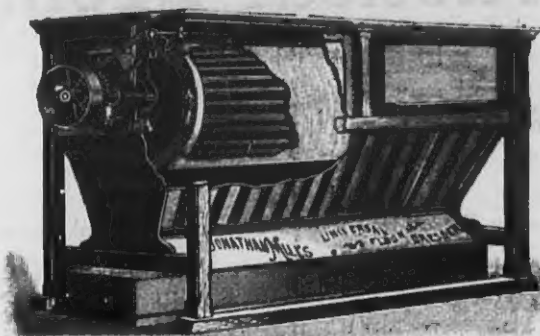
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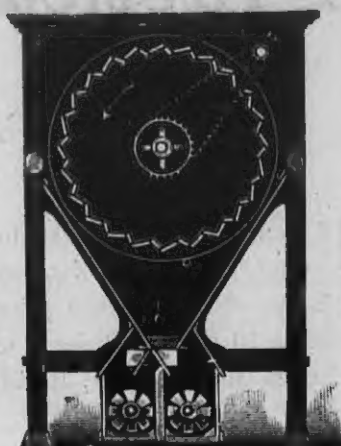
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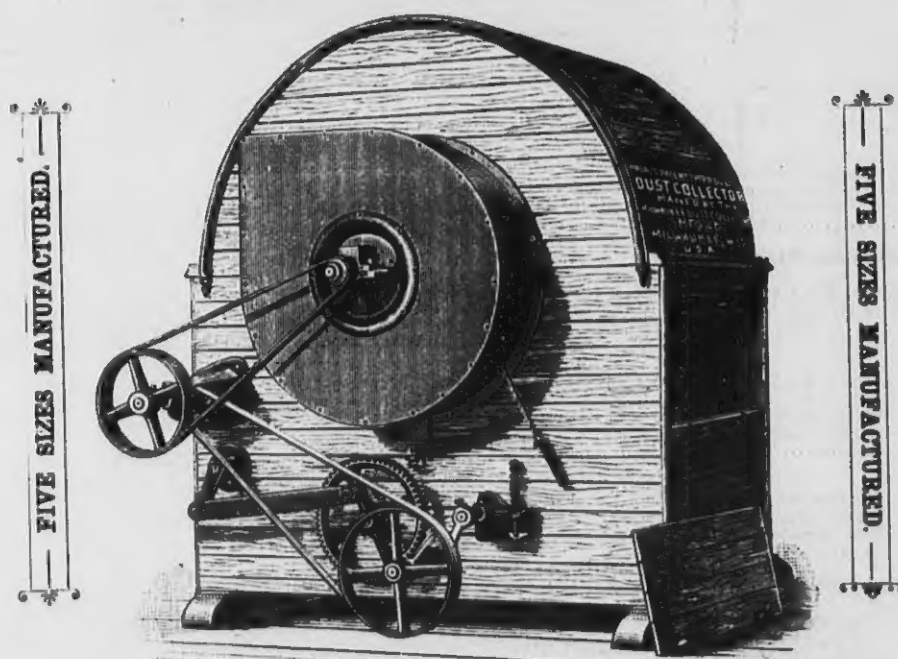
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